ESTABLISHING CARRIER-NEUTRAL INTERNET EXCHANGE POINTS IN ALASKA

Alaska Broadband Task Force Technical Subgroup Meeting

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CONNECTED NATION℠

About Us

- 501(c)(3) organization, founded in 2001 in Kentucky
- Mission: Closing the “Digital Divide”
- Areas of focus:
  - Statewide GIS broadband mapping and telecom asset inventories (Connect Alaska, 2010-2015) (Illinois, Iowa, Minnesota, Michigan, Ohio, Tennessee, Texas)
  - State and community broadband strategic planning
    (example: Alaska & Michigan Broadband Plans)
  - Projects to improve school technology
    (example: Utah School Technology Inventory with UETN)
  - Projects to improve internet infrastructure
    (example: Eastern Iowa Internet Exchange near Iowa City)
  - Federal and state policy advocacy

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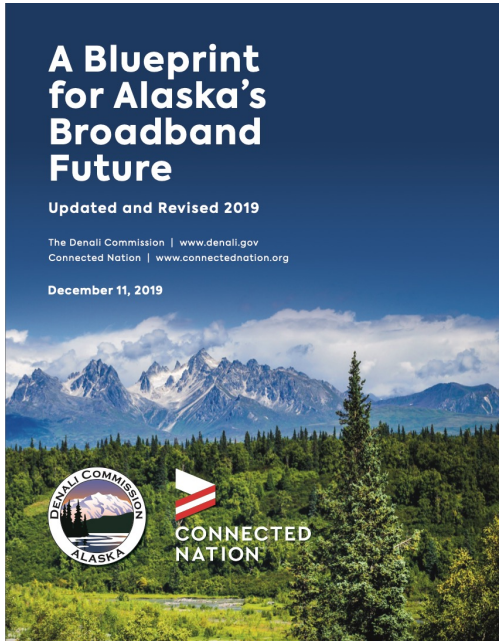
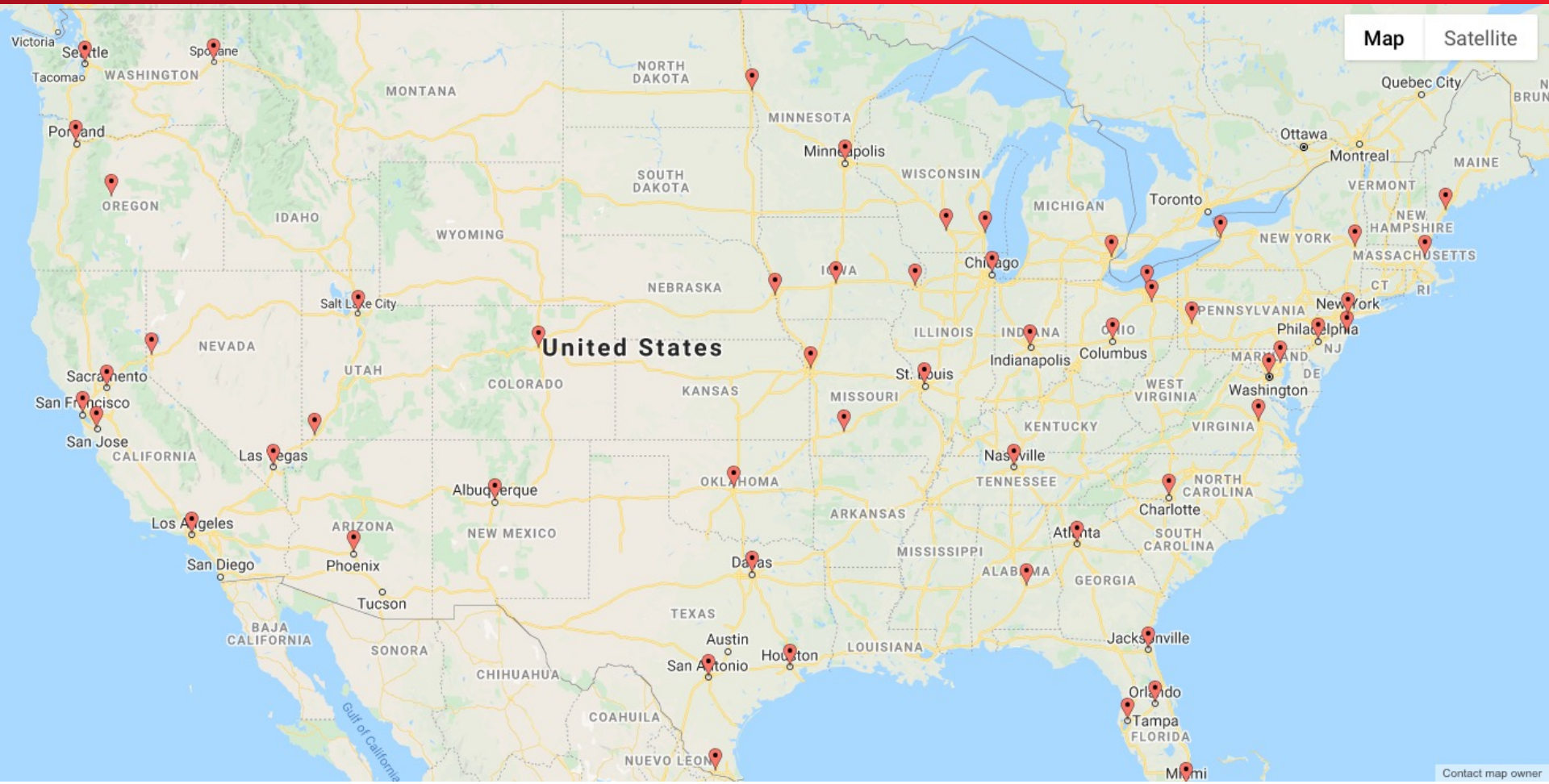


The Importance of Network Interconnection

- Have you ever thought about how service providers connect to one another? Or to content and could services like Netflix or Amazon?
- Network interconnection happens in data center-like buildings called Internet Exchange Points, or IXPs. IXPs provide a physical home where networks can “meet” and exchange traffic, usually at no cost to one another. This is called “peering”
- Internet service providers, streaming services, social networks, financial institutions, mobile phone companies, cloud service providers—all of them have a physical presence in these IXPs in order to exchange traffic in a more agile way
- IXPs actually shorten the distance that some data traffic needs to travel in order to get to its destination, reducing what’s called “latency” and allowing local traffic to stay local

IXPs in the United States



- Internet traffic in the US flows through 57 cities where IXPs are located
- 17 states do not have an IXP at all

Seattle & Portland: Alaska's Gateways to the World

- Alaska currently has no Internet Exchange Point
- Most Alaska broadband traffic is exchanged at distant IXPs in Seattle (the SIX) and Portland (NWAX)
- There is no single aggregation point for wholesale IP transit competition, or a home for Content Delivery Networks to cache-fill within Alaska

Guiding Principle #10

As content and applications become more robust, their proximity to the end-user will become increasingly important. Establishing a carrier-neutral Internet Exchange (IX) peering point within Alaska for network interconnection and content cache-filling would increase efficiency, reduce latency, and reduce the need for traffic to be exchanged at distant IX facilities in Seattle and Portland, thereby freeing long-haul capacity for other uses.

Recommendation #6

Support the development of a carrier-neutral Internet Exchange (IX) point within Alaska to serve as a home for content and application companies and network interconnection/peering.

The Critical Functions of Internet Exchange Points (IXPs)

- Facilitates direct peering between local ISPs
- Keeps local traffic local, significantly reducing latency
- Home for Cloud and Content Delivery Networks
- Wholesale IP transit competition at a single aggregation point reduces costs for local ISPs through competition
- Increases network resiliency
- Serve as an aggregation hub for K-12 and higher ed connectivity

Establishing IXPs within Alaska

- Two Facilities: Anchorage & Fairbanks
- Carrier-Neutral
- Built to Carrier-Grade & DOD DISA Standards
- Cost: ~$4M per facility (about 3.58% of Alaska's CCPF allocation)

QUESTIONS?

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